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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,695	09/21/2001	David J. Lenz	IL-10785	5236

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EXAMINER

SCALTRITO, DONALD V

ART UNIT	PAPER NUMBER
1746	2

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/960,695	LENZ ET AL.
Examiner	Art Unit	
Donald V Scaltrito	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 21 September 2001.

2a) This action is FINAL.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4, 8-10,12-15,17 and 19 is/are rejected.

7) Claim(s) 3,5-7,11,16 and 18 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 21 September 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)                            4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ .                    6) Other: \_\_\_\_\_ .

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding Claim 4, the phrase "~~s~~<sup>May be</sup> ~~as~~" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). The Examiner would like to suggest replacing the phrase "may be" with "are".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8-10 & 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Chung (U.S. Patent No. 6,108,210).

Chung discloses an electronic device that includes one or more semiconductor chips inter-connected to another substrate using a flexible conductive adhesive having a low modulus of elasticity. The flexible conductive adhesive is applied as conductive bumps on the contact

pads of the substrate or on the contact pads of the semiconductor chips and is a flexible thermoplastic or thermosetting resin filled with electrically conductive particles (note abstract).

With respect to Claim 1, Chung discloses a substrate that comprises a plurality of outwardly extending members from at least one surface of the plate wherein the members include a section of contact pads (see Figures 3 & 4 of this reference; see also column 5, lines 16-48). The Examiner would like to point out that the substrate disclosed by Chung is being interpreted as a plate and that the preamble to Claim 1 is a future intended use statement and is being given little patentable weight. With respect to Claim 8, Chung discloses that the members are integral with the substrate (Figures 3 & 4). With respect to Claim 9, Chung discloses that the members protrude from the substrate with one being at 90 degrees to the substrate and the other that is parallel with the substrate (Figure 4). With respect to Claim 10, Chung discloses that the members are integral with the substrate (Figures 3 & 4). With respect to Claims 12-14, Chung discloses that the contact pads may possess a plurality of sizes and spacings and therefore, may inherently possess different widths and lengths (column 5, lines 16-36).

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Sen et al. (U.S. Patent No. 5,817,533).

Sen et al. disclose a method of manufacturing large substrate capacitors wherein the top is divided into a plurality of segmented contact pads (note abstract). With respect to Claim 1, Sen et al. teach a substrate that includes a plurality of spaced members wherein the members define contact pads (see Figures 1 & 2 of this reference). The Examiner would like to point out that the

substrate disclosed by Sen et al. is being interpreted as a plate and that the preamble to Claim 1 is a future intended use statement and is being given little patentable weight.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17 & 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Badwal et al. (U.S. Patent No. 6,280,868).

Badwal et al. disclose an electrical interconnect device for a planar solid oxide fuel cell having a cathode, an anode and a plate-like chromium-containing substrate having fuel gas-flow channels on one side and an oxidation-resistant coating on surfaces of the one side disposed there-between.

With respect to Claim 17, Badwal et al. disclose a fuel cell stack with two separator plates disposed in a sandwich-like configuration wherein the separator plate acts as an interconnect and includes a plurality of spaced members contacting opposite surfaces of a fuel cell stack (see Figure 1 of this reference). Badwal et al. go on to teach that this arrangement can be extended to link together in series a plurality of single fuel cell stacks (column 5, lines 14-37). With respect to Claim 19, Badwal et al. disclose that the shape of the interconnects are interpreted as being that of a bridge shape (Figure 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung, as applied to Claim 1 above, in view of Badwal et al. (U.S. Patent No. 6,280,868).

Chung teaches all of the limitations as discussed under the 35 U.S.C. 102(b) rejections. Chung fails to teach or fairly suggest, however, a plurality of spaced members disposed on the opposite side of the substrate.

Badwal et al. disclose an electrical interconnect device for a planar solid oxide fuel cell having a cathode, an anode and a plate-like chromium-containing substrate having fuel gas-flow channels on one side and an oxidation-resistant coating on surfaces of the one side disposed there-between. Badwal et al. teach that providing spaced members (Figure 1 of this reference) on both sides of the interconnect can lead to an array of fuel cells connected together in an easily attainable manner (see column 5, lines 14-37 of this reference).

With respect to Claim 2, it would have been obvious to one of ordinary skill in the art at the time the invention as a whole was made to incorporate spaced, protruding members on both sides of a plate, as taught by Badwal et al., into the invention of Chung because Badwal et al. teach that providing spaced members on both sides of the interconnect can lead to an array of fuel cells connected together in an easily attainable manner. With respect to Claim 15, Badwal et al. disclose a fuel cell stack with two separator plates disposed in a sandwich-like configuration

wherein the separator plate acts as an interconnect and includes a plurality of spaced members contacting opposite surfaces of a fuel cell stack (Figure 1). Badwal et al. go on to teach that this arrangement can be extended to link together in series a plurality of single fuel cell stacks.

***Allowable Subject Matter***

Claims 3, 5-7, 11, 16 & 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art or record fails to teach or fairly suggest a plate that is composed of three layers of material. The prior art or record fails to teach or fairly suggest protruding members that are constructed from the group consisting of fingers or bridges wherein the fingers are configured to have a tapered section and the bridges are configured to have two tapered sections.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Scaltrito, whose telephone number is 703.305.4926. The examiner can be reached in his office on Monday-Friday between the hours of 9am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, may be reached at 703.308.4333. The official fax number for the organization where this application or proceeding is assigned is 703.305.3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661

Donald Scaltrito  
Patent Examiner  
Art Unit 1746  
June 23, 2003



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